

# CINNAMON VALUE CHAIN DEVELOPMENT IN LAO CAI PROVINCE

Lao Cai province has rapidly expanded its cinnamon growing area, currently ranking second in the country after Yen Bai province (Exhibit 2). According to statistics given by the Lao Cai Provincial People’s Committee (PPC), the whole province of Lao Cai has around 57,758 hectares (ha) of cinnamon, as of the end of May 2023. Among these recorded areas, the area of cinnamon that has become forested is 36,362 ha compared to 21,396 ha, which is unforested. Most of the cinnamon areas are distributed in four main districts: Bao Thang, Van Ban, Bao Yen, and Bac Ha, accounting for nearly 89 percent of the total growing area (see Appendix I for further details). Bat Xat district, Muong Khuong, Lao Cai city, and Sapa town have planted cinnamon since 2015, but the area is still small (Exhibit 1).



Exhibit 1: Expansion of cinnamon growing area

Exhibit 3 shows the cinnamon growing area by age; of which, cinnamon trees from between five and ten years old occupy the largest area (41%), followed by cinnamon trees aged 10-15 years (accounting for 30%). The remaining areas of trees less than five years old account for 29 percent. Thus, the total area of cinnamon trees that may be utilized (i.e., thinning, pruning, and white harvesting) accounts for 71 percent (Exhibit 3).

Lao Cai developed a roadmap for organic cinnamon development, expected to reach 15,500 ha of organic cinnamon by 2025. By the end of 2022, Lao Cai had 3,671 ha of certified organic cinnamon<sup>1</sup>. In 2023, the province started expanding the area of organic cinnamon to more than 5,000 ha, with the support from the USAID Sustainable Forest Management Project (the Project) among other support.



Exhibit 2: Map of the cinnamon growing area.

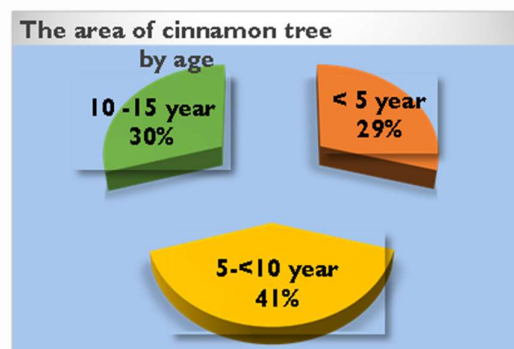


Exhibit 3: Cinnamon tree by age

<sup>1</sup> Including: 1,374 hectares in Nam Det, Nam Lui and Ban Cai communes of Bac Ha district by Son Ha Company associated with 18 groups with 785 participating households; and 2,247 hectares in Liem Phu and Nam Tha communes, Van Ban district by Vinasamex in association with 14 groups and 630 households.

## KEY ISSUES OF VIETNAM'S CINNAMON INDUSTRY

The Project conducted a rapid literature review and field assessment to initially identify seven main issues:

- i. The quality of cinnamon seedlings has not been seriously considered, especially with limited research and development on leading varieties and certified cinnamon seedlings. Low quality of seedling leads to low productivity in cinnamon bark, leaves (essential oils), and timber (logs). However, most local cinnamon growers do not tend to purchase certified cinnamon seedlings for several reasons, including: (i) price barriers, (ii) limited availability in local areas; or (iii) traditional practices collecting cinnamon seeds from their old high-density tree plots to sow and produce seedlings.
- ii. To some extent, chemical residue, glyphosate (in herbicides) and active substance, chlorpyrifos (in pesticides) as well as metal content (lead and mercury) are found above the required standards, preventing cinnamon producers from exporting to high-end markets, like the U.S. or Europe.
- iii. While the area of organic cinnamon has begun to develop, it is still on a small scale, the cost for certification is high (beyond farmers' reach), and farmers produce limited (non-diverse) cinnamon products.
- iv. Producers lack the technology and capital to invest in in-depth processing to improve product value. Due to a lack of competent experts, the intensive technical capacity of agro-forestry extension has not met actual requirements or market potential.
- v. Pests and diseases occur with cinnamon trees and many areas are over-exploited, such as: exploiting areas of young cinnamon trees; technically incorrect pruning, etc.
- vi. Collaboration between processing and exporting enterprises and cinnamon growers is not well established, although Vietnam has more than 600 companies operating in the spice industry, mainly through trade. The supply chain has not been effectively implemented, especially to form cooperatives that can connect with businesses.
- vii. There are very limited studies evaluating the potential of cinnamon trees and products' potential for carbon sequestration.

## THE PROJECT'S INTERVENTIONS

In Lao Cai, the Project is contributing to addressing the following issues:

### 1. Conducting assessment on seedlings and supporting cinnamon forest owners to obtain cinnamon "mother tree" forest certification.

In early 2023, the Project conducted a survey and identified 25 ha of 15-year-old cinnamon trees owned by 33 households in Nam Det commune (Bac Ha district) and Nam Tha commune (Van Ban district) to be transformed into a cinnamon "mother tree forest" (i.e., an area of mature trees and dense enough to produce adequate high-quality seeds for seedlings). The Project provided technical assistance to create boundaries, select and save the best trees, and thin the rest. As a result, the current standardized density is about 600 trees per ha. This practice helps increase productivity and produce better seed quality. In the next season, these 25-ha of mother tree forest will provide around 37.5 tons of seeds, which will produce more than 70 million good-quality seedlings for plantation for 21,000 ha of cinnamon. This will contribute to enhancing the CO<sub>2</sub> sequestration of cinnamon forests in the province and generate income.

### 2. Setting up farmer interest groups (FIG) for readiness to develop organic plantations.

From October 2022 to July 2023, the Project helped establish 15 cinnamon FIGs in seven communes of Van Ban, Bac Ha and Bao Thang districts. Each group consists of 50-70 members led by a management board. The Project organized consultation meetings with these groups to discuss and agree on the working principles and a benefit-sharing mechanism, that were approved by the relevant Commune People's Committees. The Project connected and facilitated purchasing agreements between cinnamon producers/ lead firms with 814 local cinnamon farmers; most of which are Dao minority ethnic people, and owners of about 1,722 ha of cinnamon.

### **3. Providing training on organic farming and pre-processing skills.**

The Project conducted 15 trainings on cinnamon organic farming for 814 farmers (41% females and 65% ethnic minorities) to raise awareness on buying certified cinnamon seedlings and to eliminate their practice of using chemical fertilizers, pesticides, and herbicides. The Project guided them on keeping a cultivation logbook to track data on seedlings, nutrition for soil, pruning, thinning, etc. This will enable farmers and conservation friendly enterprises (CFEs) to register for organic plantation. The Project is also collaborating with CFEs to train farmers on the collection of cinnamon bark and pre-processing techniques to ensure their products meet product processing requirements, market demands and required standards from CFEs.

### **4. Improving organizational performance for CFEs.**

The Project organized trainings on business planning, market access, and financial access for two CFEs (Tam Hoi Cooperative and Thai Tuan Cinnamon Ltd.) to help them understand consumer behavior, market segments for different products, and sales predictions for inventory management. As a result, Thai Tuan Cinnamon Ltd. decided to diversify their products to produce cinnamon sticks, which resulted in an agreement between the company and farmers to purchase both cinnamon branches and leaves for essential oil production and bark for cinnamon sticks.

The Project advised Thai Tuan Cinnamon Ltd. on the conditions and procedures for obtaining a Certificate of Eligibility for Pharmacy Business so the company can officially export cinnamon oil to China.

### **5. Creating long-term impact for local people and the environment.**

The Project has been providing technical assistance on cinnamon for farmers to improve their livelihoods, leading to reduced deforestation threats of natural forests. With the Project's support, approximately 2,640 local people (from 660 households) received benefits and at least 1,722 ha of cinnamon will be grown organically, contributing to better sustainable forest management and biodiversity conservation. Once these cinnamon plantations receive organic certification, the associated cinnamon producers will have more opportunities to export their certified products to the international market, especially to European and U.S. markets<sup>2</sup>. This will not only help improve livelihoods of local people, but it will also lead to sequestering more than 100,000 tons of CO<sub>2</sub> annually<sup>3</sup>, contributing to addressing the impacts of climate change in Vietnam and beyond.

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<sup>2</sup> According to the American Spice Trade Association, the U.S. imports the most cinnamon from Indonesia and Vietnam for bakery, restaurants & food service industry, flavor and seasoning, and herbal supplement/health products

<sup>3</sup> Although there are currently no scientific publications on carbon sequestration in cinnamon trees in Vietnam, reference from Sri Lanka's study show that 12-year-old cinnamon can absorb up to 60 tons of CO<sub>2</sub> per hectare per year.

## APPENDIX I. LAO CAI PROVINCE AT A GLANCE

- Total population: 761,890 (in 2021)
- Main ethnic minority groups (involved in the Project): Dao, Hmong, Tay, Nung, and Xa Pho
- Total forest area: 382,861 ha (in 2022), including 266,753 ha of natural forest and 116,108 ha of plantation forest.
- Forest cover: 57.7%
- Harvested outputs of cinnamon in Lao Cai, first half of 2023:
  - 5,746.1 tons of cinnamon bark
  - 106,646 tons of branches and leaves
  - 261.3 tons of essential oil
  - 17,264 m3 of logs
- The purchase price of raw materials:
  - Dried cinnamon branches and leaves is from 1,200-1,500 VND/kg.
  - Fresh cinnamon bark from 20,000 VND 25,000 VND/kg fresh.
  - Dried cinnamon bark from 35,000-50,000 VND/kg (depending on the size of the shell).
  - Cinnamon wood log from 900,000-1,500.00 VND/m3.
  - Post-processing selling price (as of May 2023).
- Grade A flute cinnamon with an export price of 820 million VND/ton (down 18% over the same period in 2022).
- Cinnamon essential oil is sold from 380-400 million VND/ton (down 29% compared to the same period in 2022).

No.	District	Area (ha)
1	Bao Yen	25,000
2	Van Ban	8,575
3	Bac Ha	8,000
4	Bao Thang	7,000
5	Others	4,825
	<b>Total</b>	<b>53,500</b>

Table 1: Cinnamon area in Lao Cai

## APPENDIX 2. OVERVIEW OF CINNAMON IN VIETNAM

**Cinnamon Species:** cinnamon (species cassia) is typically grown in Vietnam, China, and Indonesia, while cinnamon in Sri Lanka, Madagascaris Ceylon (species zeylanicum). The table at the right shows that Vietnam's cinnamon productivity is much lower than global productivity, especially in China.

Country	Area (ha)	Production(ton)
Vietnam	166,875	45,000
Indonesia	120,000	90,000
China	45,000	85,000
Sri Lanka	35,000	25,000
Others	23,125	15,000
<b>Total</b>	<b>390,000</b>	<b>260,000</b>

Statics from the Vietnam Pepper and Spice Association show that in Vietnam, famous locations where cinnamon is grown, include Yen Bai, Lao Cai (ranked second in Vietnam), Quang Nam, Bac Kan, and Quang Ninh.

**Cinnamon Exports and Imports:** As the table below presents, statistics from the International Trade Center (ITC) show that Vietnam is not only currently the world's third-largest cinnamon producer, accounting for 17 percent of global production, but also the highest exporting country with export turnover that reached USD 292.2 million in 2022. Some important export items include cigarette cut cinnamon sticks, cinnamon powder, and cinnamon essential oil.

No.	Country	Value in million USD
1	Vietnam	292.2
2	China	274.4
3	Sri Lanka	217.3
4	Indonesia	131.4
5	Netherlands	22.7
6	United States of America	19.9
7	Germany	14.6
8	India	10.8
9	France	6.2
10	Poland	5.2
11	Others	51.2
	<b>Total</b>	<b>1.046</b>

(Source: Vietnam Pepper and Spice Association, year 2023)